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60,426-096; 1999P07769US01

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re application of: Quail et al.
 Serial No.: 09/654,417
 Filed: September 1, 2000
 For: CONTROLLER FOR OCCUPANT RESTRAINT SYSTEM
 Docket No.: 1999P07769US01; 60,426-096

Art Unit: 3661
 Examiner: To, T.

OFFICIAL

Commissioner for Patents
 P.O. Box 1450
 Alexandria, VA 22313-1450

RESPONSE

Dear Sir:

In response to the Office Action of November 13, 2003, Applicant requests consideration of the following remarks.

Claims 1-18 and 20-41 remain in the application including independent claims 1, 15, and 18. Claim 19 has been cancelled. Claims 13 and 14 are indicated as allowable if rewritten in independent form to include all of the limitations of the base claim and any intervening claims.

Claims 1-12, 15-18, 20-26, and 28-40 stand rejected as being unpatentable over Steffens, Jr. et al. (Steffens) in view of newly cited Breed et al. (Breed).

Claim 1 includes the feature of at least one modifier sensor that generates a modifier signal representative of either a positive condition to enable an occupant restraint system or a negative condition to disable the occupant restraint system where the modifier signal disables at least one of an airbag control or a seat belt control as soon as at least one negative condition is identified.

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The examiner admits that Steffens does not disclose the modifier sensor that generates a modifier signal representative of either a positive condition or a negative condition as set forth in claim 1. The examiner relies on Breed to teach this feature. The examiner argues that Breed is directed to controlling a vehicle system based on the presence of an occupant on a seat and that it would have been obvious "to improve the system and method of Steffens, Jr. et al.'s by substituting the teaching of Breed et al. as discussed above in order to properly deploy airbag system according to the level of impact and the presence of the occupant on the seat." Page 3, lines 14-17. The examiner cites column 5, lines 13-17 of Breed as providing support for this assertion.

This text in the Breed reference merely states that one of the objectives of Breed is to "recognize the presence of a human on a particular seat of a motor vehicle and to use this information to affect the operation of another vehicle system such as the airbag system . . ." This provides no additional or new information than what is already taught by Steffens. There is no teaching in Breed of the use of a modifier sensor that generates a modifier signal representative of either a positive condition or a negative condition as set forth in claim 1. The section of Breed that the examiner argues supports this teaching makes no mention of sensors and certainly does not describe a process where sensor signals are used to disable an airbag system once a negative condition is identified. Thus, the combination of references does not disclose, suggest, or teach all of the features set forth in claim 1. For similar reasons, claims 15 and 18 are also allowable over the new combination of references.

Further, even assuming Breed does teach the use of a modifier sensor as set forth in claim 1, there is no suggestion or motivation to modify Steffens with Breed. The examiner has pointed

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to no teaching in Breed of any particular benefit to be derived from the system configuration set forth in Breed. In addition, there is nothing in Steffens that would have led one of ordinary skill in the art to believe that Steffens' sensor arrangement for detecting an occupant was in any way deficient for Steffens' purposes or was in need in modification. One of ordinary skill in the art would have found no reason, suggestion, or incentive for attempting to combine these references so as to arrive at Applicant's claimed subject matter other than through the luxury of hindsight accorded one whom first viewed Applicant's disclosure. This is not a proper basis for a rejection under 35 U.S.C. 103(a).

Further, claim 15 includes the combination of a plurality of collision sensors including a severity sensor for generating a severity signal indicating collision characteristics occurring at the time of or just after collision, and a pre-collision sensor for generating a pre-collision signal indicating vehicle characteristics occurring just before collision. The crash sensor 90 of Steffens only determines vehicle characteristics at the time of the collision, col. 3, line 64 to col. 4, line 11. The examiner has not provided any indication of where the feature of a pre-collision sensor is taught or disclosed by the cited references.

Claim 15 also includes the feature of a plurality of modifier sensors including an occupant presence sensor for generating an occupant presence signal indicating whether an occupant is present in a predetermined area, and a child seat sensor for generating a child seat position signal indicating whether a child seat is properly installed within the predetermined area. Steffens does not teach the use of a child seat sensor. The examiner has not provided any indication of where the feature of a child seat sensor as set forth in claim 15 is taught or disclosed by the cited references.

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Many of the features of the dependent claims are also not taught by Steffens and Breed. With regard to claims 2-5, 8-12, 16, 17, 20-26, and 28-35, the examiner has provided no indication of where the features of these claims are taught or disclosed by the cited references. As discussed above, neither Steffens nor Breed teach the use of the various claimed sensors as generating a modifier signal representative of either a positive condition to enable an occupant restraint system or a negative condition to disable the occupant restraint system where the modifier signal disables at least one of an airbag control or a seat belt control as soon as at least one negative condition is identified.

Claim 6 includes the feature of the modifier sensor comprising a seat belt usage sensor where the modifier signal is positive when the seat belt is engaged and negative when the seat belt harness is disengaged. The examiner argues that this feature is taught by Steffens at column 2, lines 51-67 and column 3, lines 1-25. Applicant disagrees.

Steffens teaches the use of a seat belt buckle switch that identifies whether or not the seat belt is engaged. The seat belt switch does not generate a modifier signal as set forth in the claims. In fact, Steffens teaches away from the claimed configuration by continuing to determine the level of airbag deployment after a determination has been made that the seat belt is not engaged, see Figure 2 at steps 200 and 340. Further, Steffens teaches increasing the deployment level if the passenger is not belted to the seat, see column 8, lines 63-67.

Claim 12 includes the feature of a pre-collision signal. Steffens does not teach the generation of such a signal and neither does Breed. The examiner has provided no support for the assertion that the combined references teach this feature.

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Claims 23 and 24 include the features of generating a plurality of output signals and programming the processing unit with a fuzzy logic analysis process to generate the plurality of output signals. Steffens does not teach this feature and the examiner has not indicated where in Steffens or Breed the features of claims 23 and 24 can be found. Further, the features of claims 23 and 24 are similar to those set forth in claims 13 and 14, which the examiner has indicated are allowable.

Claim 26 includes the feature of generating a severity signal indicating vehicle characteristics at or after collision and generating a pre-collision signal indicating vehicle characteristics before collision. This feature is not disclosed anywhere in the references and the examiner has not indicated where in Steffens or Broed the limitation of claim 26 is found.

Claim 28 includes the feature of including the step of learning vehicle characteristics unique to vehicle type and size by using a neural network. This feature is not disclosed, suggested, or taught in any of the cited references. Further, the examiner has not indicated where in the references such a feature is taught.

Additionally, claim 35 includes the feature of generating the pre-collision signal based on at least vehicle speed and braking characteristics prior to a collision event. The examiner has offered no explanation as to where this feature is taught or disclosed in the references.

With regard to claims 36-40, the examiner's rejection still refers to a combination of Steffens and Stanley. The examiner has withdrawn this rejection, and is no longer asserting the Stanley reference against the claims. The examiner admits that Steffens does not disclose, suggest, or teach the features of claims 36-40. The examiner has provided no additional evidence of where these features are shown in Broed. The examiner simply argues that this

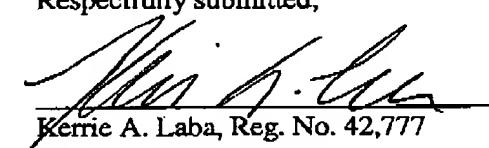
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feature is "inherent." Applicant strongly objects to this characterization and respectfully requests that the examiner indicate where in the prior art this feature is taught. The benefit of this feature is that a common system can be used for all vehicles instead of re-designing and re-programming each system separately for each vehicle type. The only teaching of the features set forth in claims 36-40 is found in Applicant's own disclosure, which cannot be used as motivation or suggestion to modify Steffens to include this feature because this is an improper use of hindsight.

Claims 27 and 41 stand rejected under 35 U.S.C. 103(a) as being unpatentable over Steffens in view of Breed and further in view of Le. For the reasons, discussed above, the combination of the Steffens and Breed references do not teach the system as claimed by Applicant. The teachings of Le do not make up for the deficiencies in Steffens and Breed.

Applicant believes no additional fees are due, however, the Commissioner is authorized to charge Deposit Account No. 50-1482 in the name of Carlson, Gaskey & Olds for any additional claim fees.

Respectfully submitted,

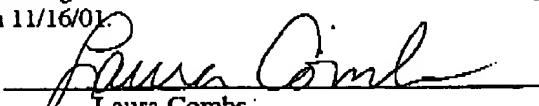


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CERTIFICATE OF TRANSMISSION UNDER 37 CFR 1.8

I hereby certify that this correspondence is being facsimile transmitted to the United States patent and Trademark Office, fax number (703) 872-9306, on 11/16/01.



Laura Combs

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